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THINK NAMIBIA

FACT SHEET ON:

Land Degradation

IMPLICATIONS FOR FOOD SECURITY IN NAMIBIA

This fact sheet seeks to discuss what land degradation is, and how it impacts on food security in Namibia.

Introduction

Land degradation is a growing problem in drylands world-wide (UNEP, 1999), as it generally signifies the temporary or permanent decline in the productive capacity of the land. There are various human activities that contribute to land degradation which include unsustainable agricultural land use, poor soil and water management practices, deforestation, removal of natural vegetation, frequent use of heavy machinery, overgrazing, improper crop rotation and poor irrigation practices. Natural disasters, including drought, floods and landslides also contribute to land degradation.

In 2013, at the Eleventh Conference of Parties to the United Nations Convention to Combat Desertification (UNCCD), the fact that degraded areas amount to one quarter of usable land on earth was raised as a significant concern, and critically the issue is particularly severe in dryland regions. With increasing global population figures and decreasing land availability and quality, the need to ensure sustainability while intensifying productivity on land already in use cannot be overstated. This will contribute to ensuring food security, especially of vulnerable rural communities who are at risk because of limited livelihood options and with a high reliance on natural resources, but it will also combat the far reaching damage that human activity and environmental trends are having on land degradation all over the world.

"Global efforts to halt and reserve land degradation are integral to creating the future we want. Sustainable land use is a prerequisite for lifting billions from poverty, enabling food and nutrition security, and safeguarding water supplies. It is a cornerstone of sustainable development. The people who live in the world's arid lands, which occupy more than 40 percent of our planet's land area, are among the poorest and most vulnerable to hunger."

(UN Secretary-General Ban Ki Moon)

DEGRADED AREAS AMOUNT TO ONE QUARTER OF USABLE LAND ON EARTH

NAMIBIA IS STATED TO BE THE DRIEST COUNTRY IN SUB-SAHARAN AFRICA, WITH 92% OF ITS LAND CONSIDERED SEMI-ARID, ARID OR HYPER-ARID, AND HENCE LAND DEGRADATION IS A SERIOUS ISSUE IN THE COUNTRY

ONLY ABOUT A THIRD OF THE COUNTRY'S FOOD REQUIREMENTS ARE PRODUCED LOCALLY, AND THE REMAINING TWO-THIRDS ARE IMPORTED TO MEET THE FOOD REQUIREMENTS

Namibia is stated to be the driest country in sub-Saharan Africa, with 92% of its land considered semi-arid, arid or hyper-arid, and hence land degradation is a serious issue in the country - a situation that is further compounded by climate change. It is also important to note that the climatic conditions in Namibia are highly wvariable, fragile and unpredictable *(Seely, Hines and Marsh, 1995)*.

In addition, 70% of the rural population are subsistence farmers (DRFN, 2008 and Mendelsohn et al., 2002). The subsistence farmers in central-northern Namibia rely on rain-fed crop and livestock production for their livelihood. Therefore, these changes affect them most, thus increasing their vulnerability. Seely and Jacobson (1994) cite that reduction in vegetation cover and subsequent stripping of the soil following intensive grazing can be found in all regions but in particular, in the Erongo, Kunene and central-northern regions of the country.

The situation in Namibia is worsened by the fact that only about a third of the country's food requirements are produced locally, and the remaining two-thirds are imported to meet the food requirements of the nation (Cotthem, 2008). The country does not have any significant influence on global food prices, thus in economic terms Namibia is a 'price taker', which leaves the country vulnerable to sharp price fluctuations for cereals and food in general on the global market.

Causes of land degradation/desertification

There are various reasons that exacerbate land degradation, and these are listed in brief below:

Human population pressure - which results in increasing demand for natural resources (land, wood, water, minerals).

Poverty and over-dependence on natural resources – poor subsistence communities tend to overly rely on natural resources for their livelihood especially when, in the absence of education, technical aid, credit or employment, they have no choice. This leads to increasing rates of soil erosion, deforestation and overexploitation of wild plants and animals.

Overgrazing - Uncertainty about land reform leading to short-term profit maximisation; low profitability leading to overstocking; and drought relief subsidies which encourage farmers not to destock when the veld condition declines (Dewdney, 1996).

Deforestation - Wood is the primary energy source for at least 60% of Namibia's population. In Zambezi Region 96% of all households use wood for fuel and 80% of all dwellings are made from wood (Ashley and La Franchi, 1997; Mendelsohn and Roberts, 1997). The largest contribution to deforestation emanates from land clearing for agriculture. Deforestation, particularly if it occurs along rivers, impacts heavily on the healthy functioning of wetland ecosystems and is a major cause of soil erosion, declining water quality and flood control (Ministry of Environment and Tourism, 2005).

Lack of secure tenure over natural resources - Without secure tenure there is little incentive for communal farmers to conserve rangelands, prevent soil erosion and limit stock numbers.

Strategies to combat land degradation and desertification

There are several opportunities and prospects to diminish land degradation such as: reforestation, adopting sustainable agricultural practices; and creating alternative livelihoods (e.g. eco-tourism). It may be stated that for there to be any visible changes there has to be an enabling environment that has removed technical, political, legal, cultural, social, and environmental barriers. These complementary actions must further be sustainably and economically viable, locally targeted and based on economic incentives *(ELD, 2013)*.

At a global level, it is important to recognise the United Nations Convention to Combat Desertification (UNCCD), which by the start of 2001 was ratified by 172 countries marking a turning point in international policy and demonstrating a growing awareness of the importance assigned to the problems of desertification *(UNESCO, 2015)*. The objectives of the UNCCD are to improve

land productivity, to restore (or preserve) land, to establish more efficient water usage and to introduce sustainable development in the affected areas and more generally, improve the living conditions of those populations affected by drought and desertification.

Impacts of environmental degradation on yield and food

According to FAO, food security "exists when all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food which meets their dietary needs and food preferences for an active and healthy life". Household food security is the application of this concept to the family level, with individuals within households as the focus of concern. Where there is no food security, this impacts greatly on the nutrition levels of the people concerned, their wellbeing and livelihood.

The natural environment, with all its ecosystem services, comprises the entire basis for life on the planet. The state of environment has effects on food production through its role in water, minerals, soils, climate and weather. The state of ecosystems also influences the abundance of pathogens, weeds, and pests all of which have a direct bearing on the quality of available cropland, yields and harvests.

Land degradation and conversion of cropland for non-food production including bio-fuels and cotton are major threats that could reduce the available cropland by 8-20% by 2050 *(UNEP)*. In countries such as Namibia the combined effects of competition of land from growing populations, reduced opportunity for migration and rotation along with higher livestock densities, result in frequent overgrazing and hence loss of long term productivity *(Bai et al., 2007)*.

It is estimated that land degradation causes a loss of grain worth USD1.2 billion yearly. All over the world, there is loss of cropland area being experienced from loss of land to other uses (such as increasing urbanisation) and land degradation; about 2 billion ha of the world's agricultural land have been degraded because of deforestation and inappropriate agricultural practices *(Pinstrup-Andersen and Pandya-Lorch, 1998)*. Despite global improvements on some parts of the land, unsustainable land use practices result in net losses of cropland productivity – an average of 0.2% per year.

National Approaches

The Government of Namibia formulated an Eco-Systems Conservation and Protection programme with the objective to improve conditions of food security and nutrition by ensuring the long term sustainable use of the environment and natural resources and conservation of forest, wildlife and Namibia's fragile eco-system.

The Government of Namibia was part of the Country Pilot Partnership Programme (CPP) which was adopted in 2008 with support from the United Nations Development Programme (UNDP) and financing from the Global Environmental Fund (GEF). The CPP programme focused on the development and testing of integrated sustainable land management (SLM) practices that would help Namibia combat its chronic land degradation, manifested through vegetation, habitat and soil productivity losses, particularly as the threats of climate change are expected to bring additional multiple challenges.

Additionally the Government of Namibia outlines its policy direction with The Green Plan, National Development Plan 4 and Vision 2030. Namibia's 10-year Strategic Plan of Action for Sustainable Development through Biodiversity Conservation, reflecting targets such as healthy, productive land with reduced pollution from agriculture and industry, together with productive, diverse and stable farmland and ecosystems which are socially, economically and ecologically sustainable.

In spite of past national policy approaches and programmes, it is everyone's responsibility (from the household level to national policy institutions) to ensure that more concerted efforts are directed towards alleviating land degradation; desertification; and redressing poor agricultural practices because food insecurity does not only affect one individual, but it affects us all as a nation in one way or the other - for example through demands on the nation's budget thereby also affecting tax payers and other budgetary requirements.

Glossary

Land Degradation
Under the United Nations Convention to Combat Desertification (UNCCD) "land degradation" means reduction or loss, in arid and dry sub-humid areas, of the biological or economic productivity and complexity of rain-fed cropland, irrigated cropland, or range, pasture, forest and woodlands, resulting from land uses or from a process or combination of processes, including processes arising from human activities and habitation patterns *(www.unccd.int)*.

Overgrazing
Overgrazing can be defined as the practice of grazing too many livestock for too long a period on land unable to recover its vegetation, or of grazing ruminants on land not suitable for grazing as a result of certain physical parameters such as its slope www.fao.org.

Crop Rotation
The system of growing a sequence of different crops on the same ground so as to maintain or increase its fertility www.dictionary.reference.com/browse/crop+rotation.

Desertification
A human intervention to reduce the human-induced UNCCD defines desertification as land degradation occurring in arid, semi-arid, dry sub-humid areas resulting from various factors, including climate variations and human activities *(www.unccd.int/)*.

Deforestation
Deforestation implies the long-term or permanent loss of forest cover and implies transformation into another land use such as areas of forest converted to agriculture, pasture, water reservoirs and urban areas *(FAO 2001)*.

Land Tenure
Land tenure is the relationship, whether legally or customarily defined, among people, as individuals or groups, with respect to land. It defines how access is granted to rights to use, control, and transfer land, as well as associated responsibilities and restraints *(FAO, 2002)*.

Ecosystem
An ecosystem is a natural system consisting of all plants, animals and microorganisms (biotic factors) in an area functioning together with all the non-living physical (abiotic) factors of the environment *(Christopherson, 1997)*.

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